

1 **(August 5, 2002)**

2 **Placing Anchor Bolts**

3 Section 6-02.3(18) is supplemented with the following:

4
5 **Resin Bonded Anchors**

6 The Contractor shall submit item 1 and 2 to the Engineer for all resin
7 bonded anchor systems. If the resin bonded anchor system and anchor
8 diameter are not listed in the current WSDOT Qualified Products List, the
9 Contractor shall also submit item 3 to the Engineer.

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11 1. The resin manufacturer's written installation procedure for the
12 anchors. Resin bonding material used in overhead and horizontal
13 application shall be specifically recommended by the resin
14 manufacturer for those applications.
15
16 2. The manufacturer's certificate of compliance for the threaded
17 anchor rod certifying that the anchor rod meets the requirements
18 of this Special Provision.
19
20 3. Test results by an independent laboratory certifying that the
21 threaded anchor rod system meets the ultimate anchor tensile
22 load capacity specified in Section 6-02.2 as supplemented in these
23 Special Provisions. The tests shall be performed in accordance
24 with ASTM E 488.
25

26 The embedment depth of the anchors shall be as specified in the Plans. If
27 the embedment depth of the anchor is not specified in the Plans then the
28 embedment depth shall be as specified in the table of minimum and
29 maximum torque below.
30

31 The anchors shall be installed in accordance with the resin manufacturer's
32 written procedure.
33

34 Holes shall be drilled as specified in the Plans. Holes may be drilled with a
35 rotary hammer drill when core drilling is not specified in the Plans. If holes
36 are core drilled, the sides of the holes shall be roughened with a rotary
37 hammer drill after core drilling.
38

39 Holes shall be prepared in accordance with the resin manufacturer's
40 recommendations and shall meet the minimum requirements as specified
41 herein. Holes drilled into concrete shall be thoroughly cleaned of debris,
42 dust, and laitance prior to installing the threaded rod and resin bonding
43 material. Holes shall not have any standing liquid at the time of installation
44 of the threaded anchor rod.
45

46 Threaded anchors shall not be installed in submerged liquid environments
47 unless specifically recommended by the resin manufacturer. The
48 Contractor shall submit tests performed by an independent laboratory which
49 certifies that anchors installed in a submerged environment meet the
50 strength requirements specified in Section 6-02.2 as supplemented in these
51 Special Provisions.
52

1	The anchor nuts shall be tightened to the following torques when the			
2	embedment equals or exceeds the minimum embedment specified.			
3				
4				
5	Anchor	Minimum	Maximum	Minimum
6	Diameter (inch)	Torque (ft-lbs)	Torque (ft-lbs)	Embedment
7				(Inch)
8	3/8	12	18	3-3/8
9	1/2	22	35	4-1/2
10	5/8	55	80	5-5/8
11	3/4	106	140	6-3/4
12	7/8	165	190	7-7/8
13	1	195	225	9
14	1-1/4	370	525	11-1/4
15				
16	When the anchor embedment depth is less than the minimum values			
17	specified, the anchor nuts shall be tightened to the torque values specified			
18	in the Plans, or as recommended by the resin bonded anchor system			
19	manufacturer and approved by the Engineer.			